

Final Project Report: Adaptive Management Program Expert Advice

Proposal Number: 2005-USGS-574B

October 11, 2011

Executive Summary:

Interlocal Agreement CBE Number 600703 was approved on July 3, 2007 by the Board of Clark County Commissioners for a period of 36 months through September 1, 2010, with two 2 year renewal options contingent upon availability of funds. On May 26, 2010 Amendment 1 was signed extending the agreement through October 31, 2011. This Final Report lists all the reviews that were completed in a timely fashion by the U.S. Geological Survey project manager and the team of 25 scientific reviewers. In total peer review was provided on 19 projects reports and 4 annual symposia. Specific reviewers for each of the Work Authorizations (WAF's) are listed along with their area of scientific expertise and curriculum vitae. A complete listing of all 37 potential reviewers that agreed to participate in the peer review process should they be called upon is also provided.

Introduction:

USGS assumed responsibility for organizing peer review for projects under the Clark County Multiple Species Habitat Conservation Plan (MSHCP)'s Adaptive Management Program. This involved coordination of reviews for each project, and the organization of symposia to review progress and final reports for each of the projects. For each of these symposia subject matter experts were sought and assigned so that each project presentation had at least two reviewers. Peer reviews were conducted by eminent scientists in similar fields of interest with the expertise in order to enhance the quality of both future presentations and reports submitted to the Clark County MSHCP.

Description of Project: The project was designed to provide objective, scientific and technical peer review of the (MSHCP) biologically oriented products submitted to the MSHCP as either presentations at symposia or as an interim or final report. The peer reviews were implemented to improve the quality of both the interim reports and final reports submitted by investigators funded by Clark County MSHCP.

Background and Need for the Project: Scientists in the U.S. Geological Survey and in academia recommended that projects and products funded by the MSHCP be subjected to outside peer review. This peer review is modeled after the process employed in review and editing of scientific literature, and was designed to provide an independent perspective by scientists not affiliated with the MSHCP in order to enhance the quality of the scientific investigation, the clarity of future symposia presentations, and the final product submitted.

Management Actions: The MSHCP considered the peer review provided to be an integral part of the Adaptive Management Program.

Methods and Materials:

The methods for this project consisted of three associated tasks that were outlined in the Interlocal Agreement and have been adhered to:

Task 1. *Project management of all symposium and review assignments.* The project manager organized a team of eminent scientists with knowledge of the subject matter for each of the projects funded by the Clark County MSCHP environmental management program. Each project to be reviewed (whether an interim or final report) was submitted to the project manager, reviewers were assigned and conducted, and reviews were submitted to the county project manager.

Task 2. *Symposium participation and documentation.* The project manager has participated in all symposia and provided critical review of the presentations. In addition the project manager recruited and invited experts to attend and review presentations at the annual symposia and provided written peer reviews documenting the specific questions members of the Clark County staff developed.

Task 3. *Reviewing materials and documenting reviews.* The project manager recruited a cadre of eminent scientists from various biological fields of interest. These scientists were called upon to participate in the peer review process on an as needed basis to review documents in their area of expertise.

Results:

From the inception of this peer review project (**2005-USGS-574B**) in 2007 to the present, the project manager recruited and maintained a cadre of highly qualified scientists willing to review documents and participate in symposia (Appendix 1). As part of the past four Clark County Project Review Symposia (2008 - 2011) a total of 13 individual scientists have participated (several attending more than one symposium). Additionally, 29 peer review work authorization contracts (WAF's) were issued to the project manager, 6 were cancelled or voided, and 19 were reviewed by 17 individual scientists. Some reviewers were asked to participate multiple times to maintain the continuity of the review on the same project or a closely related project. Each reviewer (including the project manager) provided timely and credible scientific peer review of either symposium presentations (Table 1), and/or technical review of draft interim or final reports (Table 2). These review documents were transmitted to the Clark County MSHCP upon completion. Additionally, two anonymous US Geological Survey scientists performed the critical review of a new project proposal (WAF0027). The curricula vitae for all reviewers that participated in reviews and/or symposia are provided in Appendix 2, with the exception of the two USGS anonymous reviewers (see attached file, Peer Reviewers CVs).

Discussion:

Peer review is an expected standard for the improvement of scientific proposals, and literature in nearly every scientific discipline. The project manager had sufficient familiarity with both the types of research being funded under the county MSHCP program, and with the experts in various fields of biological research to identify and recruit high caliber, qualified scientists that agreed a-priori to participate in the peer review program. This facilitated a standing committee of reviewers that were able to provide substantive reviews on a number of scientific subjects with a minimum turnaround time. We hope, that the peer reviews submitted to Clark County and disseminated to participants have inspired improvements in their interim reports, subsequent presentations, and final products submitted to the MSHCP over the course of our contract. It is anticipated that the two recent peer reviews of a new Clark County project proposal by

anonymous USGS scientists have also assisted in improving the study design and methods of implementation of their study.

Conclusions/Recommendations:

We recommend that an outside scientific peer review process be continued for projects funded under the Clark County MSCHP. We found that managing such a process was possible by maintaining a group of eminent scientists in both technical and academic fields that could be solicited to participate in reviews with relative short turn around times. This ensured that the outside peer review process can operate effectively and efficiently, in fact with shorter turn around times than most scientific journals. For future efforts we have provided a listing of potential reviewers with their areas of expertise in Appendix 1. The ultimate goal of this peer review process has always been to improve the quality of the research by improving the study design at the outset as well as the presentations, progress reports and final products. It is hoped that these timely reviews inspired the participants to improve the quality of their completed documents and future presentation. Future peer review efforts would benefit from greater feedback throughout the process to ensure that the expected quality of reviews is sufficient, and that the goals of the peer review process have been met.

Table 1. Peer reviewers that participated in the Clark County Multispecies Habitat Conservation Plan Progress Symposia 2008 through 2011 and affiliation.

Symposium: August 14-15, 2008 Reviewers:

Mr. Philip A. Medica, U.S. Geological Survey

Dr. Earl McCoy, University of South Florida, Tampa, FL

Dr. Henry Mushinsky, University of South Florida, Tampa FL

Dr. James Reveal, Cornell University, Ithaca, NY

Dr. Daniel Rosenberg, Oregon State University, Corvallis, OR

Dr. Eric Simandle, Paul Smith's University, Paul Smiths, NY

Symposium: August 12-13, 2009 Reviewers:

Dr. J. Whitfield Gibbons, Savannah River Ecology Laboratory, Aiken SC

Dr. Dennis Hansen, National Security Technologies LLC

Dr. Debra Hughson, National Park Service, Mojave National Preserve

Dr. James MacMahon, Utah State University, Logan, UT

Mr. Philip A. Medica, U.S. Geological Survey, Henderson, NV

Dr. Daniel Rosenberg, Oregon State University

Symposium: August 10-12, 2010 Reviewers:

Dr. Dennis Hansen, National Security Technologies LLC

Mr. Philip A. Medica, U.S. Geological Survey, Henderson, NV

Dr. J. Michael Reed, Tufts University, Boston, MS

Dr. Daniel Rosenberg, Oregon State University

Dr. Eric Simandle, Paul Smith's University, Paul Smiths, NY

Symposium: August 17, 2011 Reviewers:

Mr. Philip A. Medica, U.S. Geological Survey, Henderson, NV

Mr. James Moore, Nature Conservancy, Las Vegas, NV

Dr. Von Winkel, Springs Preserve, Las Vegas, NV

Table 2. Work Authorization Form (WAF) number and date authorized, documents to be reviewed and reviewer assigned to review those documents.

WAF Number	Title	WAF Start Date	Reviewer
WAF 0001	Landscape Assessment Spring Mt. National Recreation Area Chapters 1-4	19 December 2007	James A. MacMahon George Austin Lloyd Stark Kent Ostler Michael Bogan Chris Lowery Philip A. Medica Kenneth Nussear
WAF 0002	Review of Great Basin Bird Observatory's Monitoring Plan	17 January 2008	J. Michael Reed
WAF 0003	2008 Symposium	26 August 2008	See Table 1
WAF 0004	VOID		
WAF 0005	Landscape Assessment Synthesis Spring Mt. Nat. Recreation Area Chapter 5	28 May 2008	James A. MacMahon
WAF 0006	VOID		No reviewer found
WAF 0007	Landscape Assessment Synthesis, Spring Mt. Nat. Recreation Area Chapter 6	3 July 2008	James A. MacMahon
WAF 0008	Bird Expert Team Meeting	5 September 2008	Daniel Rosenberg Jon Bart
WAF 0009	Landscape Assessment Synthesis	27 October 2008	Anthony M. Starfield
WAF 0010	2009 Symposium		See Table 1
WAF 0011	Cancelled	15 July 2009	
WAF 0012	Review Bald Eagle Monitoring Products	1 June 2010	Daniel Rosenberg
WAF 0013	Weed Sentry Project	8 December 2009	David Anderson
WAF 0014	Review Peregrine Falcon Monitoring Products	17 August 2010	Daniel Rosenberg
WAF 0015	VOID		
WAF 0016	Review Annual Report & Developing Habitat Models & Monitoring Techniques for 9 Rare Bird Species	3 February 2010	J. Michael Reed
WAF 0017	Review Annual Report Conceptual & Habitat Models for 6 Covered & 3 Evaluation Bird Species	3 February 2010	J. Michael Reed

WAF 0018	VOID		
WAF 0019	Review Connectivity of Relict Leopard Frog Final Report	3 March 2010	Eric Simandle
WAF 0020	Cancelled	31 March 2010	
WAF 0021	Review Inventory & Research for Watch & Evaluation Plant Species – Final Report	2 June 2010	Kent Ostler
WAF 0022	Review Inventory & Research for Covered Plant Species—Final Report	14 June 2010	Kent Ostler
WAF 0023	Review Illegal Ground Disturbances In Response to Management Actions—Draft Final Report	28 June 2010	Margaret Fusari
WAF 0024	Review Monitoring of Road Conditions & Signs Draft Final Report	28 June 2010	Margaret Fusari
WAF 0025	2010 Symposium		See Table 1
WAF 0026	Review Bird Survey & Modeling Products	26 October 2010	J. Michael Reed
WAF 0027	Review Draft Tortoise Monitoring & Occupancy Sampling Protocols	12 November 2010	USGS: 2 Anonymous Reviewers
WAF 0028	Review of Peregrine Monitoring Products	6 January 2011	Daniel Rosenberg
WAF 0029	2011 Symposium	23 June 2011	See Table 1

Appendix 1. Names of Potential Peer Reviewers with Affiliation, Expertise and email addresses.

Dr. David C. Anderson, National Security Technologies, Mercury, NV; Plant ecology, botany, taxonomy. email: ANDERSON@nv.doe.gov

Dr. James M. Andre, Univ. of Calif. Granite Mountain Desert Research Center, Kelso, CA; Plant taxonomy, rare plants, plant conservation biology. email:granites@telis.org

Dr. Rudolf G. Arndt, Richard Stockton College, Pomona, NJ; Aquatic ecology, ichthyology, herpetology. email: rudolf.arndt@pollux.stockton

Mr. George Austin, Florida Museum of Natural History, Gainesville, FL; Lepidopteron distribution, ecology, and natural history, ornithology. Deceased

Dr. Jonathan Bart, Snake River Field Station, USGS, Boise, ID; Ornithology, bird population monitoring. email: jon_bart@usgs.gov

Dr. Michael Bogan, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM; Mammalogy, small mammals, bats. email: mbogan@unm.edu

Dr. David Delehanty, Idaho State University, Pocatello, ID; Conservation biology, ecology, ornithology. email: deledavi@isu.edu

Dr. Chris Elphick, University of Connecticut, Storrs, CT; Conservation biology, ornithology, applied ecology. email: chris.elphick@uconn.edu

Dr. John Fieberg, Minnesota Dept. of Natural Resources, Forest Lake, MN; Biomathematics. email: john.fieberg@dnr.state.mn.us

Dr. Margaret H. Fusari, University of California, Santa Cruz, CA; Ecology, plant ecology, herpetology. email: fusari@ucsc.edu

Dr. David J. Germano, California State University, Bakersfield, Bakersfield, CA; Herpetology, small mammals, tortoises. email: dgermano@csubak.edu

Dr. J. Whitfield Gibbons, University of Georgia, Savannah River Ecology Lab. Aiken, SC; Herpetology, ecology. radiation biology. email: gibbons@srel.edu

Dr. Dennis J. Hansen, National Security Technologies, Mercury, NV; Plant physiology, botany, remote sensing, revegetation. email: hansendj@nv.doe.gov

Dr. Brian T. Henen, Marine Corps Air Ground Combat Center, 29 Palms, CA; Herpetology, physiology, tortoise ecology. email: brian.henen@usmc.mil

Dr. Devin S. Johnson, National Marine Mammal Laboratory, NOAA, Seattle, WA; Biological Statistician. email: devin.johnson@noaa.gov

Dr. Trip Lamb, East Carolina University, Greenville, NC; Genetics, conservation biology, geographic isolation. email: LAMBA@ecu.edu

Dr. James A. MacMahon, Utah State University, Logan UT; Desert ecology, small mammals, seed banks, biodiversity. email: jam@cc.usu.edu

Mr. Chris Lowery, U.S. Geological Survey, Henderson, NV; Mammalian ecology, small mammals, genetics. email: clowery@usgs.gov

Dr. Earl D. McCoy, University of South Florida, Tampa, FL; Ecology, conservation biology, community ecology. email: mccoy@chuma.cas.usf.edu

Mr. Philip A. Medica, U.S. Geological Survey, Henderson, NV; Desert ecology, herpetology, mammalogy. email: pmedica@usgs.gov

Dr. Joseph C. Mitchell, University of Richmond, Richmond, VA; Herpetology, conservation biology. email: dr.joe.mitchell@gmail.com

Mr. James E. Moore, The Nature Conservancy, Las Vegas, NV; Conservation biology, ecoregional ecology, reserve management. email: jmoore@tnc.org

Dr. Henry R. Mushinsky, University of South Florida, Tampa, FL; Herpetology, tortoise ecology. email: mushinsk@cas.usf.edu

Dr. Kenneth A. Nagy, University of California, Los Angeles, Los Angeles, CA; Physiology, tortoise biology. email: kennagy@biology.ucla.edu

Dr. Wesley Niles, University of Nevada Las Vegas, Las Vegas, NV; Botany, threatened and endangered plants. email: wes.niles@unlv.edu

Dr. Robert S. Nowak, University of Nevada, Reno, Reno, NV; Plant ecology, global change, invasive plants. email: nowak@cabnr.unr.edu

Dr. Kenneth E. Nussear, U.S. Geological Survey, Henderson, NV; Desert ecology, species modeling, herpetology. email: knussear@usgs.gov

Dr. W. Kent Ostler, National Security Technologies, Mercury, NV; Plant ecology, botany, remote sensing, revegetation. email: ostlerwk@nv.doe.gov

Mr. Grey W. Pendleton, Alaska Department of Fish and Game, Juneau, AK; Biometrician/Statistician. email: grey_pendleton@fisgame.state.ak.us

Dr. J. Michael Reed, Tufts University, Medford, MA; Avian ecology, conservation biology, animal behavior. email: michael.reed@tufts.edu

Dr. James L. Reveal, Adjunct - Cornell University, Ithaca, NY; Plant taxonomy and ecology. email: jlreveal@umd.edu

Dr. Daniel K. Rosenberg, Oregon State University, Corvallis, OR; Ornithology, conservation biology, landscape ecology. email: dan.rosenberg@oregonstate.edu

Dr. Eric T. Simandle, Paul Smith's College, Paul Smiths, NY; Genetics, amphibians, metapopulations. email: esimandle@paulsmiths.edu

Dr. Lloyd R. Stark, University of Nevada Las Vegas, Las Vegas, NV; Cryptogams/mosses taxonomy and soil biology. email: lrs@unlv.nevada.edu

Dr. Glen R. Stewart, California State Polytechnic University, Pomona, CA; Desert studies, mammals, herpetology, tortoises. email: ursus4@earthlink.net

Dr. Walter G. Whitford, New Mexico State University, Las Cruces, NM; Desert ecology, entomology, herpetology, plant ecology. email: wawhitfo@nmsu.edu

Dr. Von K. Winkel, 2409 S. Old Highway 91, New Harmony, UT, 84757; Desert restoration ecology. email: vonwinkel@springspreserve.org